THE

HORTICULTURIST.

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Hints on Grape Culture.—XXV.

In our last we promised to illustrate in detail the process of forming the spurs in the system of training under discussion. This we now proceed to do. The engravings are on a moderately large scale, being about half the natural size; sufficiently large to give the reader a clear idea of each stage of the process. We have prepared the illustrations with much care, and they are admirably executed; a mere novice will be able to recognize them as grape vines, and not mistake them for apples, pears, or plums. Almost the only defect in our last illustration consisted in the failure of the engraver to truly represent the bark of the vine. We are now in a position to have these things well done hereafter. The illustrations which follow are not mere fancy sketches, but actual portraits taken from the living vine by our own hands.

To make the subject as plain as possible, we propose to go back to the arm as laid down at the beginning of the third year.

Fig. 1.

Fig. 1 is a section of a single bud. The arm, when first laid down, was composed of buds just like this. The pinching and stopping developed the buds finely, as shown at *b*. The attachment of the leaf and the swelling caused by the tendril are plainly seen. The letters *a* and *c* are of no importance just now, but will be hereafter, when we come to speak of propagating the vine.

Fig. 2 shows the appearance of the spur

Fig. 2.

at the end of the third year, as pruned. The cane from which this spur is formed proceeded from the bud *b* in *Fig.* 1. The effect of pinching and stopping is also seen here in well-developed buds. After being pruned as shown in the figure, the treat-

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ment will consist as follows: at the season of growth, the buds *d* and *b*, and, indeed, all the buds except *e* and *c*, are rubbed off. Others buds will sometimes be developed at these points, but they must be rubbed off, and only *e* and *c* allowed to grow. The bud *c* is retained in preference to *b* and others, because it is on the side opposite the inclination of the spur, and is usually the strongest. The rule, however, is to select the strongest base bud, if it is not badly placed; rubbing the others off will strengthen the one that is left. If by any accident the base buds should be destroyed, the bud *d* must be retained. The shoot from the bud *e* is the only one allowed to bear fruit, the full strength of the shoot from the lower bud being retained for fruit the next year, as already explained. The minutiæ of pinching, etc., the reader already understands.

Fig. 3 shows the appearance of the spur at

Fig. 3.

the end of the fourth year, partly pruned. The right hand spur, *b*, is the one shown in *Fig.* 2. *d* is the shoot that proceeded from the bud *e*, and bore the fruit. *c* shows where the bud was rubbed off. The left hand spur is formed of the shoot that proceeded from the base bud *c* in *Fig.* 2. The pruning is completed by cutting off the right hand spur, *b*, at the dotted line, *h*, *Fig.* 3. The treatment will then be as follows: the bud *g* is to be retained for fruit; but if it should be accidentally lost, retain *f* for fruit; otherwise rub *f* off. If the base bud, *e*, should be well developed, retain it now in preference to the others, because it is situated lower, and the base spur will be kept from elongating too fast. If it is weak, however, take the upper base bud. All the other buds are to be rubbed off. We shall then have two shoots, as before, and the same process of pruning is to be pursued year after year. In this manner the base spurs or knobs are kept quite as short as they are by what is called "short spur" pruning, with this advantage, that the native vigor of the vine is not half as much impaired.

We have spoken of the accidental loss of the base buds. If the vine is in good vigor, these may usually be reproduced again by cutting down the spur within an inch of the arm. We here present some examples, being actual portraits. *Fig.* 4 represents a case in

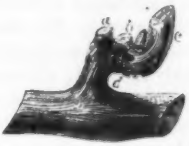

Fig. 4.

which the base bud was lost. The next bud above (say *d* in *Fig.* 2) was allowed to grow. *a* shows the little stump left by the next pruning, which was close, only the base bud being left to grow. The shoot produced by this base bud is shown at *b*, as pruned, the pruning in this case also being short. The base bud from *b* produced the shoot *c*, and the pruning will now go on as above described. The curve in the shoot *c* has had the effect of developing seven buds around the base, four of which are shown, the majority of them being full and plump.

Fig. 5 presents a case in which the spur, *a*, was broken off early in the season. Two shoots, *b* and *c*, were produced, and both might have been retained; but *b* showing a decided outward rather than upward tendency, it was cut off. The base buds on *c* are very full and plump. The pruning in this case

will now go on in the usual manner, the spur being like that shown in *Fig.* 2.

Fig. 5.

Fig. 6 shows an example of a base spur or knob cut off for the purpose of getting a new fruit spur. *a* shows the point where it was cut. A number of dormant buds were developed, but only two, *b* and *d*, were retained, the others being weak. *d* being rather badly placed on the side of the arm, it was cut off, and *b* retained. The base buds, *c*, are also in this case nicely developed, and the pruning will go on as usual.

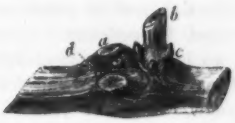

Fig. 6.

With these examples before the reader, we think we may pause for a moment, in order that he may study them.

THE LIBRARY.—III.

BY S. L. B., BROOKDALE FARM, MAINE.

We now come to books, their arrangement and classification.

In most private libraries, unless the collection is of considerable pretensions, the cases are so constructed that the larger works occupy the lower shelves, gradually decreasing towards the top, the upper shelves being constructed for the smaller sized volumes. By this method, if the collection is small, the library has a symmetry and beauty about it that commends it to the attention of all beholders. The object, or one object, at least, of this plan, is to save room, for a book-case so built will contain a larger number of volumes, than if all the shelves were of equal distances apart. By this method, also, the books must necessarily be arranged according to their size, a good plan enough where the library is not extensive.

A better plan, according to my own idea, is to have the shelves of the cases at very nearly the same distance apart, so that the volumes may be arranged according to a better system of classification than the mere external shape or appearance of the books. It is true, that where books are arranged according to particular subjects or authors' names, the whole library may not present quite so symmetrical a view to the eye; but an examination of its contents will show a harmony and relation running through the whole collection that will at once silence all objections as to its outward appearance. It may also be said, that such a plan of arranging books is quite unnecessary and inconsistent for private, although a very good one for public libraries. But we answer, that a private library of any considerable extent—and we know of many gentlemen, a number of them country residents, who have libraries of this character—should be arranged with as much system, and kept in as good order as a public one, for the advantages presented by the arrangement are as necessary to the former as the latter.

The arrangement which we would suggest is, that books be classed both according to the subjects, and the authors' names. Let us illustrate: the library is so extensive that separate cases are devoted to particular branches of knowledge; for the intelligent gentleman desires works upon history, biography, and general literature, as well as upon horticulture, rural economy, and other

branches of agriculture. Now the books in these separate cases may be arranged by authors' names. So we get two systems of classification, the one by subjects, the other by the names of the authors. In the case devoted to agriculture proper, for instance, we have the name of FLINT, and we find the volumes of the "Agriculture of Massachusetts," the works on "Grasses" and "Dairy Farming," and also the "Manual of Agriculture," side by side. Again, take THOMAS, and we have the three volumes of "Rural Affairs," "The Fruit Culturist," "Farm Implements," and the volumes of the "Cultivator" upon the same shelf. Perhaps it may not be necessary to commence with A, at a certain place or upon a certain shelf in the library, and continue through the case, reaching the end of the alphabet and the last shelf at the same time, and it may; this we leave to be decided by each reader. By this plan the works of an author are by themselves, whereas, if differently arranged, works by the same author would be in widely different places in the library, because upon somewhat different subjects.

We have indicated in the above remarks such a method of classifying books as can be readily adopted in most private libraries; yet there are many collections throughout our land that are not of the extent that would demand such an arrangement. A neat book case containing a few choice, well-selected volumes of general literature; a few standard works upon the different branches of rural art, science, and economy; and the leading journals devoted to agricultural and horticultural matters, would form one of the most attractive pieces of cottage furniture, and would pay a greater dividend upon the capital invested, than bank stock. And we are glad that such libraries are springing up all about us. Many farmers and gardeners not only take the prominent rural journals, and bind up the yearly volumes, but they have Downing's works, and quite a respectable number of standard volumes upon that branch of culture or husbandry in which they are specially interested. The growing interest in agricultural and horticultural pursuits that has taken place within the past twenty years, and the advancement that has been made in them, are due in a great degree to these agencies.

There are many country residents, who, if they do not already possess a large library, have the means of procuring it "to order." But a good library, a really valuable collection, can best be obtained by slowly and gradually building it up from the materials with which a person is constantly surrounded. It can then be built up according to the wants and tastes of the possessor. There is no better employment for the spare time, and no better use for the spare funds of a young man than the foundation of a good library of useful books. They accumulate year after year, not in such large numbers but what he can make himself master of their contents, and in a few years he will find that he not only has a respectable collection of books, but has their wisdom at his own command. But young farmers and gardeners should not fall into the error of obtaining this knowledge and retaining it, but to be useful to themselves or others, it must be put into the active and real affairs of practical life.

[We welcome No. 3 of the Library series with much pleasure. Every one of our readers should, and probably does, feel an interest in this subject. We hope there are few of them who have yet to learn what an inestimable treasure a good library is. We are very glad that the subject has fallen into the hands of S. L. B., for he understands the subject, and fully appreciates its importance. There is an additional reason why large books are placed on the lower shelves; the labor of handling them is thereby much lessened. The arrangement by authors and that by subjects are both good, the first suiting us best; either is much to be preferred to the too common practice of putting books upon shelves without regard to any arrangement at all, except size. In the excellent advice given by S. L. B., it should not be overlooked that books are to be *read*, not kept for show.—ED.]

VENTILATING AND PROTECTING FENCE.

BY SENECA, WATERLOO, N. Y.

INCLOSED I send you my plan of a ventilating fence, for gardens and small vineyards, such a one as I built for myself last fall. I have therefore not had time to try its utility and usefulness, but have no doubt it will work well, and prove a good wind-breaker and shelter for vines and fruit trees in the spring, at the same time hastening them forward, and, I think, will ripen grapes ten days earlier than without it. When the cold, piercing, blasting winds of May and June are over, open the ventilators, and the fence makes no more shade than a common garden fence. It is cheap and simple in construction, and can be made any desired height that is required. Do not laugh at my rude drawings, as I am no draughtsman, but hope to make myself intelligible to you. The fence is 6½ feet high, made of one 6 inch and six 12 inch boards. The posts are 10 feet long, 4 by 6 at butt, 6 by 2 at top, of chestnut timber. I charred the butts 4 feet, and then applied gas tar, put on with a whitewash brush, hot, and while the posts were still hot. Figure 1

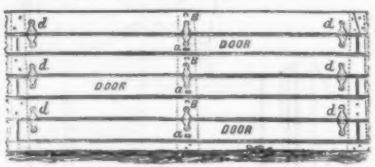

FIG. 1.

is a front view, representing the fence when shut. *d* are strap hinges; *a* is a mortice 1½ inches long in the ventilator, passing or admitting a staple driven in the post, to keep the ventilator closed, every alternate board

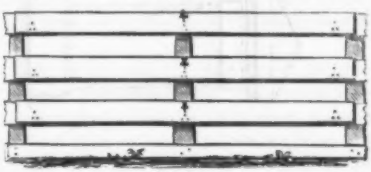

FIG. 2.

being a ventilator; *B* is another staple, which corresponds with the mortice in the ventilator, to keep it open when required, and fastened by a wooden pin passing through the staple. Figure 2 is the fence when the ventilators are open; *e* representing pins and staples to keep the ventilators in their places. Figure 3 is a side view.

FIG. 3.

Items for Ventilating and Protecting Fence.

One length, 16 feet long and 7 feet high, 3 posts, 4 by 6 butt, 2 by 6 top, 10 feet long, 54 feet, at $2 00 per 100 feet,	$1 08
112 feet pine boards at $1 25 per 100 feet, - - - - -	1 40
6 dozen screws, at 50 cts. per gross, -	24
4½ pair hinges, 5 inch strap, at 10 cts.,	45
6 staples at 2 cents, 12d nails, 3 cts.,	15
	$3 32

Should you ever come this way, I would be pleased to have you stop in; and if I do not show you a model vineyard, I will agree to stand treat to all the oysters and other good things until you say quit.

[We are much obliged to you for your plans, with the accompanying description. We have reduced them in size, and put them in such shape as we think will suit you. That some kind of protection is very much needed in exposed localities and northern latitudes is now getting to be pretty well understood by intelligent pomologists. Yours, it seems to us, possesses considerable merit, and is cheap. It might be made still cheaper and lighter by using narrow stuff without materially impairing its usefulness. We shall be glad to hear more about it at the end of the season. In the mean time, we hope somebody will give it a trial. Thank you for your very generous offer; but you had better withdraw it, unless you are quite sure of your vineyard, for we are decidedly great on the "half-shell."—ED.]

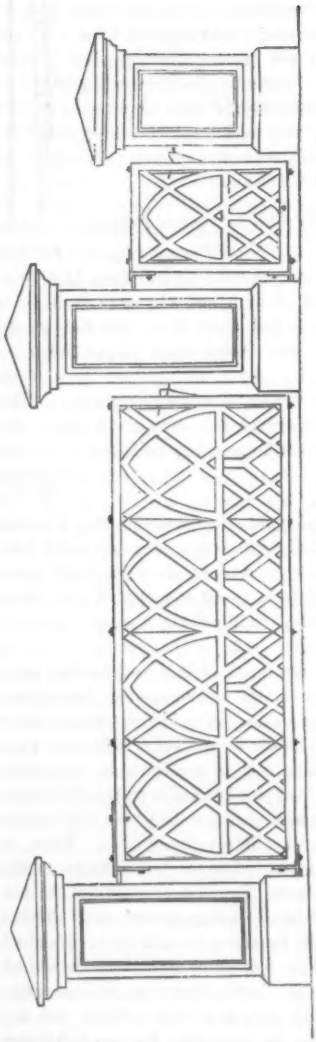

Fig. 1.

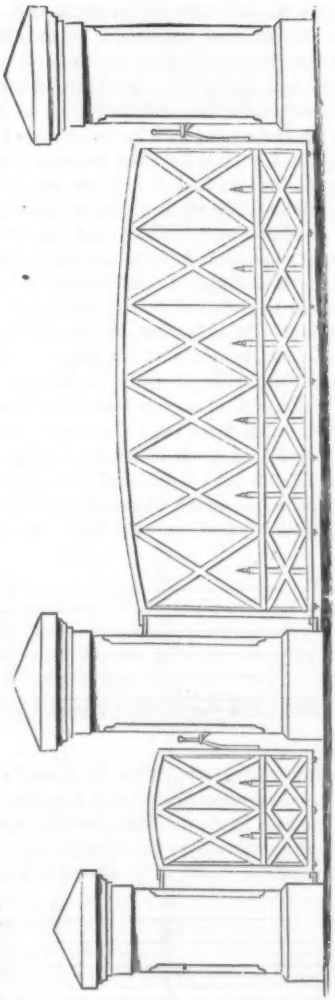

Fig 2.

A CHAPTER ON GATES.

By Geo. E. Woodward, Architect and Civil Engineer, 37 Park Row, N. Y.

A few years ago, we wrote an article for the *Country Gentleman*, on the application of the principle of the truss to all classes of wooden gates, illustrating it with the present figures 3, 5, 6, and 7, and in 1861 prepared an article for the Horticulturist, illustrated with the present figure No. 1.

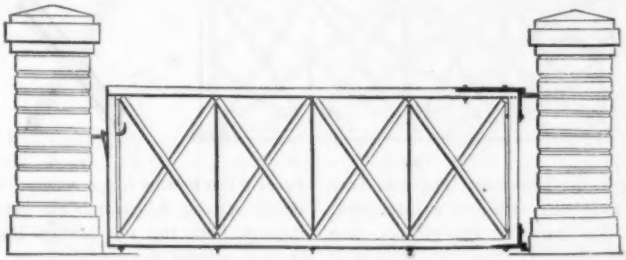

Fig. 3.

Fig 2.

Since then, in our professional rambles, we have accidentally noticed some thirty gates erected after these designs in different sections of the country, and, for aught we know to the contrary, it is one of the most popular gates that swing. The principle of this gate is best shown in figure 3, and consists of four panels of braces crossing each other, and held firmly in position by five iron rods, which can be tightened by the screws at the bottom. The braces are not tenoned, and there are no nails about the gate. There can be no sagging under any circumstances; but should such a thing occur from unequal shrinkage, it can easily be remedied by placing a thin strip of wood or sheet lead under the foot of the braces running forward. There is economy in the construction of these gates, as they can be made with a less number of joints, and greater strength and stiffness secured with lighter materials, than in any other style of gate we know of. The principle is the one used in railroad bridges and roofs of great span, and our own experience with them, having built and tested all the gates here illustrated, is, that they possess very decided merits.

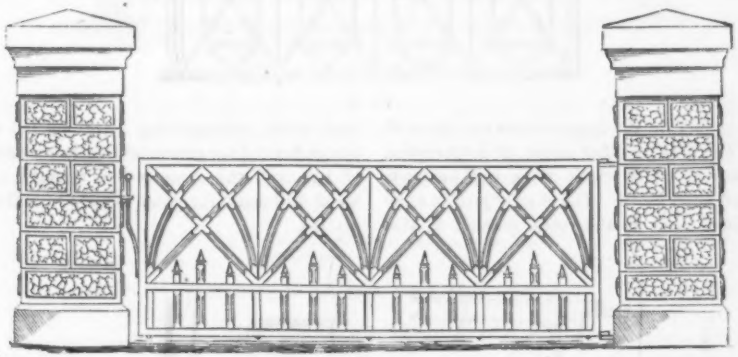

Fig. 4.

Fig. 4 is the principal entrance gate to

one of the finest estates on the Hudson, above Tarrytown, and although similar in appearance to figure 1, has some very decided differences, the cross braces in this case reaching only to a second rail; the rods, however, pass through to the bottom; it is much more elaborate in workmanship, and the addition of a moulding on the top and bottom would increase its effect.

Fig. 5 is the entrance gate at the New

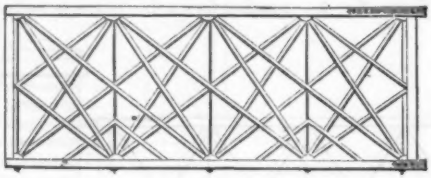

Fig. 5.

Fig. 6.

Windsor, N. Y., Parsonage, and has been hanging four years without a perceptible change. The braces in this are one inch square and doubled; they are not halved, but cross each other, two one way and one the other, in the manner shown in figure 6.

There is no other mode of constructing gates in which rustic work can be made such good use of. The chief objection to all things made in the rustic manner is, that they soon fall to pieces, limbs shrink and twist, and nails do not hold; but a rustic gate held together by iron rods will remain good until the last brace has decayed.

Fig. 7 is the principal entrance gate to one of the most finely finished country seats on Newburgh Bay.

Figs. 8, 9, and 10, illustrate a novel style of hinge, peculiarly adapted to this gate, and is really stronger than any other. It requires less iron and less blacksmith work.

Fig. 8 shows the top hinge corner, and figure 9 the bottom hinge corner. The iron which secures this end of the gate, passes through both top and bottom hinge, and binds them and the gate securely together. The additional fastenings for hinge are made with carriage-bolts. Nothing but a power beyond the enormous tensile strength of iron and the compressible strength of wood, will cause the gates to yield in ordinary use.

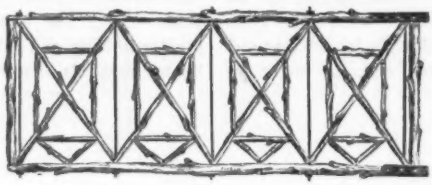

Fig. 7.

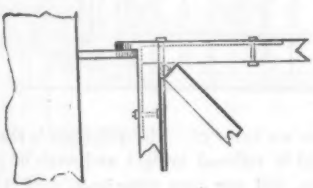

Fig. 8.

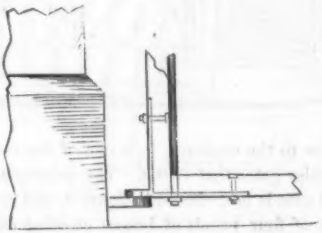

Fig. 9.

Fig. 10 is a perspective view of the hinge, showing how it may be counter-sunk, and

thus almost entirely concealed. Figs. 1, 2, 3, and 4, also show the hinge, and four different styles of stone gate piers.

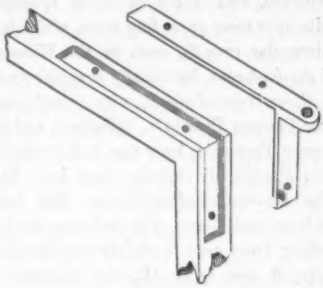

Fig. 10.

Fig. 11 is intended for a farm gate. The cross rails are secured by carriage-bolts passed through them and the main braces. Each end of the gate has an iron rod only, which is made heavier than the others, and saves framing. The hinge is made by having the iron rod project beyond the bolt head and nut, and the upper end is passed into an eye, as shown in Fig. 12, which is screwed into the post; the lower end is pointed, and is placed in a stone as shown, or it may rest on solid iron of similar form to the eye. Any intelligent laborer, with an axe and auger, can, with the iron work, make these farm gates.

Fig. 12.

This principle of constructing gates admits of an infinite variety of designs; those given are merely suggestive. It admits of all classes of workmanship, from the plainest to the most elaborate, from the simplest farm gate to those required for the finished park, and in beauty, strength, and economy stands unequaled.

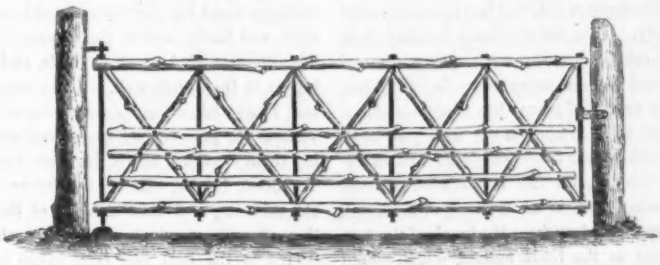

Fig. 11.

ORCHARD CULTURE, ETC.

BY OLIVER TAYLOR, LOUDON CO., VA.

P. B. Mead,—A few observations and hints that I wish the public to possess, I hereby send thee, viz.: Fruit trees in grass, or not cultivated in some manner, so as to keep down the grass and weeds, will not do well here in this part of the country as a general rule, and only in very few exceptional cases will any fruit tree bear well for several years without cultivation, or some substitute for cultivation, that will keep the grass from growing near the trees, and insure a regular supply of moisture to the roots. I do not doubt that, in a more northern climate, an orchard may be put in grass with advantage; but it will not do here in our cold, clay soils, so far as our experience and observations

teach us, and this I think for the following reasons: Our springs being gradual and long, the grass gets the start before the roots of the trees are very active, and when the hottest part of summer comes on, the grass or weeds have absorbed the moisture and strength from the soil to such an extent, that the tree can not get a sufficient quantity; hence it stops growing; and if it has a crop of fruit to support, the tree will be so exhausted in supporting the crop through the long dry summer weather we generally have, that it seldom gets over it for years after sufficiently to produce another such crop. I know of no orchard any where in this country that has borne well, that was not cultivated regularly for several years previous, and the best peaches I saw in 1861, that trying season with all orchards, was from an orchard some fifteen years old, that had been cultivated regularly. I am aware that a seedling fruit tree of inferior quality may spring up and grow, and bear for many years in succession, in some neglected place; but if we wish large and rich fruit in abundance here, year after year, with all our frosts, droughts, and moderately rich soil, we can not achieve success by growing grass in the orchard, even though we keep it all clear from the trunk of the tree as far out as the limbs extend, which would be heavy labor to perform by hand. Hot, dry seasons act far more against an abundant crop of fruit than any thing else, because we have the most fruit in the coolest and wettest seasons on the average, (but grapes may be an exception to this rule in damp soils.) It is true, also, that constant and deep plowing under the trees produces much injury, but more injury, no doubt, occurs from the prevalent practice of high trimming, which, so far as I can observe, has killed more than three-fourths of the bearing trees in these parts by allowing the sun to act too powerfully on the trunk and large roots near the surface of the ground. The practice of growing grass in orchards here will always prove a failure, though it may not in other soils and more northern climates.

The influence of the graft to determine the shape of the roots is quite plainly seen in taking up trees in the nursery. We have often noticed the upright growing varieties invariably have roots that tend more directly downward, and those of more spreading habits have more spreading roots, while those of irregular growth, such as the Wine-sap and Smoke-house, have many irregular roots; and those trees of small, wiry growth, such as the Cannon Pearmain, Bellefleur, and the Summer Pearmain, have fine and numerous roots; though all varieties may have been grafted on one lot of seedlings. This influence is so easily seen, that any one used to handling trees sees it plainly manifested in nearly, if not quite all, the varieties of apples.

A few words upon Grapes, next, if not equal to the apple in true value, and my favorite fruit any way. Among the favorite varieties stand the Rogers's Hybrid, so large, mild, and hardy, and in these parts ripening from the last of August to frosts, and hanging on to the bunch well. As to the qualities, I have taken the opinion of a great many visitors the past two summers, and after giving them Concord, Diana, Rebecca, Catawba, To Kalon, Lenoir, Clinton, and several other old varieties, and then a No. 4 of Rogers's, they all, with one single exception, exclaimed, "This is the best you have given me, decidedly." That one exception preferred the Catawba, and said she liked the strong, foxy taste of the Catawba. No. 4 is in use just after the Concord, and is much the most pleasant eating grape, dark color, large berry, and abundant bearer so far. Nos. 33 and 34 are two to three weeks later, and also black, larger than No. 4, and good bearers. Nos. 14 and 22 are too late north of this, but very large and showy, with good flavor. No. 3 about as early as No. 4, and No. 15 a few days later, much in color like the Catawba, but much sweeter. Many other varieties of these seedlings will doubtless prove fine here, and some, I think, will not ripen any season, even here. Altogether, they are the most decided acquisition we have had in the grape line for many years, and no doubt they will create quite a stir when they are exhibited in all their perfection.

Our hot, dry, long summers, ripen the grape most seasons to perfection, and though a wet spell, when one variety is ripening, causes it to burst and decay soon, still the most of the varieties are sure to get enough heat during September to sweeten them nicely, and the past September some few kinds got so well ripened as to commence to dry up on the vines in well-drained dry situations, such as the Delaware, Garrigues, Isabella, and Constantia. The Delaware we dried, and are now eating very good raisins from them, without any care but simply drying them.

I would like to know who has the largest specimen of Golden Arbor Vitæ in America. I have one that is about seven feet tall, and as large around in proportion as they generally grow. It is very much admired, and surely is a fine specimen. Can any one excel it? If so, let me know.

[This is just the testimony, in regard to orchard culture, that we should expect from a man of such large experience as Mr. Taylor: candid as to himself and fair to others. If cultivation is the good thing we all claim it to be, it ought to be good for orchards, and that is our conviction. Like other rules, it may have its exceptions, but these must be very few. We are glad to hear such a good account of grapes. You will always have fine grapes in your climate. We have felt much interest in the Rogers's Hybrids, but have not seen enough of them to determine their exact place among grapes. We are inclined to believe that No. 4 will prove to be at least as good as the Concord; it is very much that style of grape. We should take our place with your lady friend, however, in preferring a juicy, vinous grape, to one that is dry and buttery. But we are glad to hear every good thing of these Hybrids. The Delaware, carefully dried, makes an excellent raisin; but, like you, we have had very good ones by simply letting it dry itself. We have been about a good deal, but we have nowhere seen a Golden Arbor Vitæ to compare with yours in size. We would walk a long distance to see it. The largest that we have seen belongs to William Kelly, Esq., of Rhinebeck, N. Y.—Ed.]

DWARF PEARS.

BY T. T. S.

Mr. Editor,—I am right glad to see that you have taken up your pen on the subject of Pear culture. I love the Pear, and I am pained to see the ill success and failure which too often attend its cultivation through want of knowledge, especially of the Dwarf Pear.

A Standard Pear wants good and careful treatment, a Dwarf Pear wants the BEST of care. Many, particularly people along in life, will not put out Standard Pears because they are a good while in coming into bearing, and will not plant Dwarfs because they fail with them. So they go without the best of fruits. This is useless. I believe that the principal great failure in Dwarf Pears is caused by a want of knowledge of the proper system of pruning. The system recommended in this article I KNOW is attended with success. Let us for a moment consider the nature of what we have under consideration, its capabilities and its peculiarities. The Pear is made a Dwarf by being budded on the Quince root; the Angers Quince being used mostly for this purpose, because of its being a rapid growing kind. We all know that the Quince is a slow and small grower, partaking more of the form of a large bush than a tree. While on the other hand the Pear is naturally a large and rapid grower. Here are presented two natures, which we wish to combine and make subservient to each other, in antagonistical relations to each other. The Pear wants to grow to a large tree. The Quince root objects, and wants to grow a small tree.

It is evident that in some way the Quince

root and Pear tree must accommodate each other—their different natures must be reconciled. How is this to be done? Answer: Develop in the Quince root its fullest capabilities to nourish the Pear tree. Do this by always keeping the ground mulched, enriching the soil, and by LIBERAL CULTIVATION. The roots of the Quince neither extend deep nor wide, so feed liberally by top dressing. Next, so proportion the tree to the root that the root will not become exhausted in supplying the tree with sap. This is to be done by constant reduction of the limbs of the tree year by year. Commence with the tree when it comes from the nursery. So prune it that it will be broad at the ground and narrow at the top. Cut the limbs back to two or three buds, and each succeeding spring cut back TWO-THIRDS of the previous year's growth. By this system the tree is kept within the bounds of the power of the root to supply nourishment to the tree. The result is, that a uniform, vigorous, healthy growth is obtained. On the other hand, if the Pear is allowed to have its own way, it will at the beginning make a faster growth than the root can afford. The tree become exhausted and diseased, and then "Dwarf Pears are a failure."

Once for all, plant below the place of budding, prune SEVERELY until the tree has become firmly established, pay attention to the "Hints" in February number, and success is yours.

[We are much obliged to you for this brief article on Dwarf Pears. We shall welcome every thing having a tendency to replace Pear culture in its proper position in the estimation of the public. The article was crowded out last month, much to our regret. That was the case with our own on the same subject, and the necessity seems to be on the point of repeating itself. We shall be glad to hear from you again.—ED.]

THE EARLE PEAR.

WE are indebted to Mr. F. R. Elliott, of Cleveland, Ohio, for portraits and descriptions of several new varieties of Pears. We have had them engraved, and herewith present one of them, named the Earle Pear. We have never seen it, that we can remember, and can therefore add nothing of our personal knowledge. The following is Mr. Elliott's description:

"FRUIT: *Size*, medium. *Form*, roundish oval, slightly one sided. *Color*, light, clear, pale yellow ground, with scattered minute dots, with pale green suffused underneath, around them; a faint blush on the sunny side, and occasional small patches of thin light russet. *Stem*, short, half to three-quarters of an inch in length. *Cavity*, open, of moderate depth, russeted at base. *Calyx*, small, with five narrow, distinct, erect segments. *Basin*, open, regular, smooth, round, pretty deep. *Core*, solid, eatable. *Capsules* small. *Seeds*, partially imperfect, dark brown. *Flesh*, white, rather coarse-grained, breaking, juicy, sweet, slightly aromatic. *Season*, late autumn and early winter. Origin, Herkimer County, New York."

GLEANINGS.

BY E. H. C.

ABOUT fifty years ago, M. Durand lectured on mineralogy in Paris, and he thought he proved that there is *sensibility* in stones. His great point was the love of the stone for the sun. It was quite a rose and nightingale scandal. Take a solution of salt, put one half of it in the sun, keep the remainder in darkness. Superb crystals will form

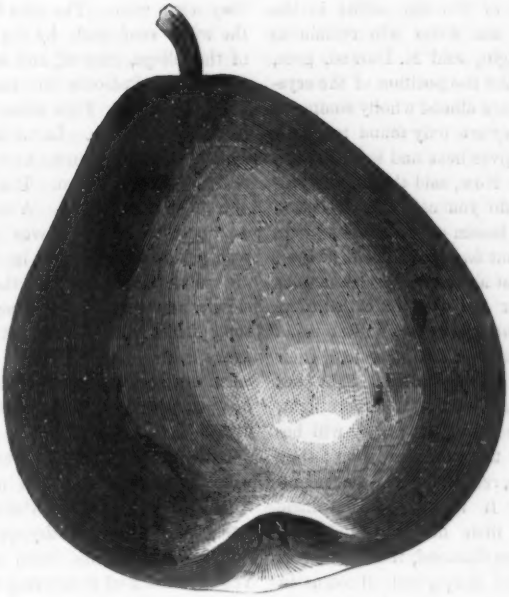

Fig. 1.

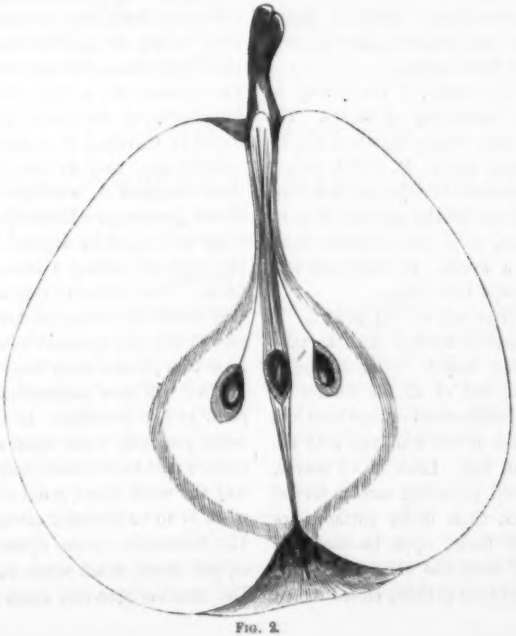

Fig. 2.

under the kiss of the sun, while in the shade the salt and water will remain as they were. Light, said M. Durand, goes, therefore, into the composition of the crystal. Diamonds are almost wholly composed of sunlight; they are only found in places where the sun gives heat and light enough to make them. Now, said the French philosopher, what do you call that reception of light to the bosom of the stone? what can you call it but *love?* He went further, and asserting that all the highest mountains are placed under the equator, called them lumps of sunlight. They are imitations of the salt experiment on a large scale. Their granite peaks are crystallized light, but incomplete crystals. Give them more light, and they will be complete; they will become crystals of the sublimest order; they will be diamonds, real Koh-i-noors, or mountains of light. If the sun was a little brighter and a little hotter, Chimborazo would be all one diamond, the Himalayas would be diamond steeps, and all towns in the East, over the sunny sides of their walls, would have diamond turrets, like Amberabad. Every sun-baked brick of Egypt would, in that case, become a jewel worth some quarts of Koh-i-noors.

All this is the result, if the theory be correct, of the sensibility of stones. The whole earth, many sages believed, Kepler among them, was alive. M. Patrin taught of the earth how metals, plants, and minerals were formed of the gases within its body. It is not, to be sure, sensible like a man, but like a world. It could not talk words, but it could talk things.

This is not, after all, so very absurd. If the things in nature are not sensible, they certainly are not stupid. Bonnel used to say, that at the end of all his studies he could not see the difference between a cat and a rose bush. Let us see what the wits are that a rose bush has. Look at its leaves, with their smooth, glittering surface turned to the sky. But their under surfaces are soft and full of pores, open to catch the moisture rising from the soil; half open when they need only a little, closed when they want none. The rain that falls upon the waxy roof, made by the upper surface of the foliage, runs off, and is dropped into the ground just over the sucking ends of all the rootlets. Turn some of these rose leaves upside down. Lay a cat on her back, and she will not consent to remain long in that unnatural position. The rose leaf, too, objects to be inverted. A man may bend a branch so that its leaves will hang the wrong side upward; but let him watch it. He will observe how all the little leaves slowly and very carefully begin to turn on their stems. At the end of a few hours every leaf will have brought round its polished surface to the light, and be holding its open mouths again over the ground for drink.

Is the plant stupid? It knows what it wants, and likes it, and if it is within its reach, it will obtain it. Put the rose bush into your garden, with dry, poor soil on one side, and rich, genial earth on the other. You will not find it suffering its roots to be long in the dark about the trick that has been played upon them. They start out, of course, as usual, and as the mail-coaches used to do, in all directions; but those that begin their journey through the poor soil, receive in a mysterious way, some information of the better land that is to be found by traveling in a contrary direction. Accordingly, they all turn back to follow their companions who have gone into the richer pasturage. Undertake to put these roots into a jail by digging a trench round the rose, or sinking a stone wall into the earth. The roots dive into the ground until they reach the bottom of the obstacles, then pass it, and run up again until they find the level that pleases them best.

Who will now undertake to say that a plant is not sensible? If you go into the fields, you will tread upon a multitude of flowers that know better than you do which way the wind blows, what o'clock it is, and what is to be thought about the weather. The *Calendula arvensis* opens in fine weather, and closes again when rain is coming. The *Sonchus Siberious* shuts up at the end

of each day's business, but only remains tranquilly asleep when it has no doubt at all about the morrow, but knows it will be fine. Let a traveler seek shelter from the sun under an Acacia, with thorns as white as ivory, which Linnæus calls the *Mimosa eburnia*. The dark shade on the sand perhaps becomes suddenly flecked with light. He looks up, and observes that his parasol is shutting itself up; that every leaf is putting itself to bed. If he will look closely, he may observe, too, that the leaves sleep by the dozen in a bed, nestling together in small heaps. The traveler has nothing to complain about; he does not need the shade; there is a cloud over the sun. The tree thinks—one is almost obliged to say the tree *thinks*—that it will come on to rain. There is no reason why all its roots should not be watered in the arid soil; and there is no reason why its leaves, delicately set on slender stems, should be beaten from their holdings. The leaves, therefore, are shut up and folded together in small bundles, that they may find in union the strength which in isolation they do not possess, while at the same time room is left for the rain to pass between them to water the roots.

There is not an hour of the day which is not the beloved hour of some flower, to which she opens her heart. Linnæus conceived the pleasant notion of a flower-clock. Instead of a rude metal bell to strike the hour, there is a little flower-bell, ready to break out at three o'clock; a star-flower that will shine forth at four, and a cup will appear at five o'clock, perhaps to remind old-fashioned folk that it is tea-time. Claude Lorraine, although he did not make a clock of four and twenty flowers in his garden, was a landscape painter most familiar with nature; and when he was abroad he could at any time know what the hour was by asking the flowers of the field. It would have been of no use for him to ask a cat. The peasants of Auvergne and Languedoc, all have at their doors beautiful barometers in which there is no glass, quicksilver, or human handiwork. They are furnished by the flowers.—*Aimé Martin, Lettres á Sophie.*

[There is no end to the wonders that may be found in the field of Nature. If you should "glean" there a whole lifetime, you would still find new objects of interest. We may never master the mystery which surrounds many of them, but we are wiser and better for trying to do so.—Ed.]

INTERIOR VIEW OF THE "BRIGHT NUT" EXTENDED.

LEAF-MOULD, MUCK, AND CHARCOAL IN VINE BORDERS.

BY FOX MEADOW.

Concluded from p. 132

We do not intend to dispute the authority of "Dr. Thomas Anderson, Professor of Chemistry in the University of Glasgow!" of the possibility of the protoxide of iron being formed by the decomposition of vegetable matter "*without access of air;*" neither did we claim any superiority for muck on any such ground; but we do still claim, as before stated, that vegetable matter in swamps is decomposed with the "partial" exclusion of air, and consequently a greater portion of its carbon remains in the *exact* condition to answer the purpose of charcoal. Now it is well known, that when oxide of iron exists, it is usually in the form of the *per*oxide, and that it sometimes exists in the form of *prot*oxide, which is poisonous to plants, and renders soil unfertile. This latter (*prot*oxide) is sometimes detected in common soils; but will Dr. Anderson, or any other Dr., affirm that, if such soil be thoroughly plowed and worked in such a manner as to freely admit air and water, that this compound will not take up more

oxygen, and so render this *proto*xide a *per*oxide, and thus make it available for plants? Dr. Anderson would preach no such silly nonsense! Suppose sulphuret of iron compounds *are* found in *green* muck just dug from swamps, did Dr. Anderson or that "other Dr." ever discover their presence there after a winter's frost had acted upon it? or when such alkalies as potash, soda ash, or white ash, or strong wood ashes were used in its preparation? Never! Then if this "*proto*xide," or its possible production, "sulphuret of iron," only exists where *no air* is found, of what consequence is its poison to plants which only grow *where air is?* Is not Mr. Bright endeavoring to frighten the readers of this Journal out of the use of the best natural vegetable fertilizer found on this great Continent by a mere "Will o' the Wisp" argument? Dr. Anderson would tell Mr. Bright that swamp muck, aërated, and properly incorporated with such alkalies as previously named, *is not second to the best of cow manure*, and in the place of its being a sour, poisonous destroyer of plants, is superior to any "special fertilizer" ever concocted by "Bright" or any body else.

But what of Charcoal? What says "Prof. Lindley, of the London Gardener's Chronicle, the most distinguished vegetable physiologist of the age?" With all due respect to Dr. Lindley as a vegetable physiologist, yet, if he was put to form grape vine borders, and required to produce a crop of grapes, he would turn out in the end just as our poor penitent friend Bright has, *a miserable failure!*

The readers of this Journal would naturally suppose, by Mr. Bright's quoting the authority of Dr. Lindley on charcoal, that the Professor had direct reference to vine border making; but, instead of this, we find he is talking about "Iron clads" in the dock-yard at Cherbourg! M. Lapparul, Inspector General of Timber, with a view to the preservation of ships from decay, has adopted a process consisting simply in directing a powerful jet of gas on the wood, so as to penetrate every crevice; the charring being sometimes facilitated by the addition of a very thin coat of tar. So much for charcoal in vine borders, and its evil tendency based on the opinion of Prof. Lindley! Dr. Lindley, however, is of opinion that charring ship timber will not prevent "dry rot," and this is the gist of the whole subject. Dry rot is, of course, a species of fungous growth, and we are of opinion, with Prof. Lindley, that charring *will not* prevent this growth of Fungi *when already in* dry timber or charred matter, or *charcoal* when *immediately under the action of atmospheric influences.* But we deny in toto that such Fungi growth will ever be produced on a piece of charcoal *under ground in a vine border!* Nor in swamp muck, nor in decomposed leaf-mould!*

"Old Oaks, dating at least from the time of King John," says the Doctor, "which have never shown a trace of Fungus, except such species as affect the bark and not the wood, if accidentally burnt, produce on the charred surface an abundant crop of the very Fungi which occur in such profusion in our dock-yards on badly seasoned timber." Of course; and who is there, having any pretensions to horticulture, who is supposed to be a close observer of Nature's never-deviating laws, that is so ignorant as not to be cognizant of this fact? Is a piece of hard burnt charcoal prepared earthy matter containing the organic and inorganic food of plants? Is the living wood of the oaks in question affected by this Fungi? Not at all, but the moment death takes place, that moment inevitable *law* by degrees decomposes its hardened tissue, and compels it to return from whence it came, and be once more the proper food of plants! All charred matter, if left under the full influence of the

* Perhaps one of the greatest of earthly blessings to a farmer working a poor piece of soil, would be to find it literally covered some morning in the early spring with "toad-stools;" and if he was a man of ordinary ingenuity, he would embrace the precious opportunity of "plowing under" such a splendid *green* crop of the cryptogamia. The richest pasture lands of England are white over with Agaricus campestris and Morchell esculenta; and when Tuber cibareum is dug from the roots of Oaks and Beeches, no person ever found their roots rotten by the action of Fungi growth!

air, undergoes a similar state of fungoid or chemical decomposition. It is immaterial to this "Divine law" whether the subject it acts upon be a piece of rotting stick, charred stick, iron-clads, or the adamantine rock! The Doctor admits, as all do who know any thing about the properties of charcoal, its great antiseptic power, and refers back to Cæsar to show, from his writings, that stakes were charred at their ends to preserve them from rotting in the soil, and also speaks of the advantage derived by charring the ends of gate-posts. To suppose that charcoal or DECOMPOSED leaf-mould, placed *in the soil*, will produce a fungus growth deleterious to healthy vegetation, is too absurd to reason upon, and to endeavor to clap on the shoulders of Prof. Lindley the "authority" of such an opinion is a base calumny and a vile slander. If the Professor is not a practical gardener, he is an excellent botanist, and a sound vegetable physiologist, possessed of too much common sense to write or advocate such trashy nonsense as Mr. Bright would willingly impute to him. I trust that this calumny will never get to his eyes or ears.

If Mr. Bright should ask Dr. Lindley for his opinion of the *use* of charcoal *in* the soil, (vine borders,) he could refer him to thousands of instances of it as an effective fertilizer, and especially to those plants grown under glass. Heaths, Rhododendrons, Cucumbers, and Melons, Onions, Roses, Orchidaceous plants, Camellias, Hydrangeas, Pine-apples, and a host of other plants, have been the subjects of extensive and successful experiments; and we will vouch our word for it, that Dr. Lindley would tell friend Bright that charcoal may, with decided advantage, be applied to almost every known plant in cultivation. He would tell him that carbonic acid applied to the roots of plants renders them more luxuriant and productive than other plants to whose roots no such application is made. He would tell him that charcoal "*in*" *the soil kept moist*, slowly combines with oxygen, and emits carbonic acid, and he would also tell him that decomposed leaf-mould and prepared swamp muck will do the same, and on which principally depends the solubility of mineral substances. Now is it any wonder that a man like friend Bright, who ignores (very recently) charcoal, leaf-mould, and muck, should utterly fail in the culture of the vine? We can tell him from practical knowledge of over thirty years' toil and study, that he nor any other living man will ever permanently and successfully grow crops of grapes without bounteous supplies of rich carbonaceous food; for without it your salts and your silicates, and all the other jumbles of compounded minerals, will be no better *in* or *on* your borders than so much insoluble flint!

Here we have presented some of the "theory" of muck, leaf-mould, and charcoal, by which we do not expect to wholly reclaim friend Bright from his *past* errors, but hope and trust it may have some influence on his *future* action; and if his heart is so hard, and his stubbornness so great, that he won't swallow this cup of common sense, and will not "honestly imbibe the wormwood," he should be at least "magnanimous," and not lead others into errors that will involve them in utter ruin. As to our "owning up," we think we have done so honestly; but to place our own individuality "along with us"—O good gracious! This reminds us of the fox who got his tail chopped off in a trap, and persuaded all his brothers to cut off theirs! *it looked so much better to be all alike!* But *this* "fox" don't see it.

In closing this subject, we respectfully invite our poor brother, the "Pilgrim now in the pillory," to take another annual trip and see "Fox Meadow;" it will do his poor desponding heart good, we know, to look at our vines, *hard forced for seven years*, with thousands of Hamburgh leaves measuring over twelve inches across, and bunches of fruit in proportionate size, growing in MUCK and SAND, mulched with a foot of rotten leaves! We also extend the invitation to all those faint-hearted amateurs who have been led to *doubt* the practical use of a good rich carbonaceous soil by the cloud of smoke thrown over their mental vision from that luminous and "Bright" propounder of poisonous fungated Leaf-mould.

[Since this controversy has been under way, we have received a number of letters from parties not yet "deeply founded in the faith," asking whether there *is* any danger in using muck, &c., and whether they must continue to follow the advice that we have long and persistently given them. This makes it necessary for us to say again, without reference to either side of this controversy, that there is no one thing of greater value to all who grow plants, than carbonaceous matter in some of its forms. We never advise the use of a thing unless we *know* it to be good; and we do not believe that, among all the readers of the HORTICULTURIST, there is a single one who, having faithfully followed our advice, has had cause to regret it. Let the doubting, therefore, and those of little faith, be reassured, and go straight on in the "carbonaceous" path that we have marked out for them, while Fox Meadow and Mr. Bright discuss the merits of leaf-mould and muck.—ED.]

A HALF DOZEN ANNUALS OF EASY CULTURE.

BY THE EDITOR.

WE continue our list of Annuals this month, giving six more, of easy culture. Some of them might have been planted last month, in-doors, but we had no room for them. They will do well, however, planted at once in the border, but will not bloom so early. It will be observed that we confine the list strictly to annuals; hence, Dianthus chinensis, Lobelia erinus speciosa, and some other beautiful plants, are excluded, but will not be overlooked. There are quite a number of very fine half-hardy biennials that bloom abundantly the first year, and are practically regarded and treated as annuals. None of these will be forgotten.

As the seeds of the plants about to be named are to be sown in the border, a few words may be added, as to the best mode of doing so. The ground must, of course, be spaded up; it should then be raked clean and fine. We shall take it for granted that the border has been properly enriched, but not made gross by the addition of large quantities of coarse manure. The drills for the seed may be made in various ways. A good and neat one is to use the rim of a flower-pot six inches or more in diameter. This is to be pressed into the ground to the required depth, the seed covered, and the earth pressed gently upon them. A label, having written on it the name of the seed, is to be placed in the center of the circle. Another mode is to make a short, straight drill, with a pointed stick or a trowel, placing the label at the end of the drill. In both these methods, weeding is easily done without disturbing the plants. The too common method of scattering the seed here and there in the border, has nothing to commend it. On the whole, we commend the rim of a flower-pot, especially for the ladies. In the case of very large seed, where only one is to be planted, it may be pressed into the ground with the finger, or a hole be opened with the trowel, and the seed dropped in. Whatever else may be necessary in the way of direction will be mentioned in its place. We now proceed with the list. The seed should be at the depth we name when they are covered.

1. Zinnia, (*vars.*)—Sow the seed about a quarter of an inch deep, and an inch apart, if the seed are plump and good; otherwise sow thicker; or two or three seed may be sown where the plant is to stand, and the surplus transplanted. If the seed are sown in drills, they may be transplanted as soon as they are well out of the seed leaf. The Zinnia grows from two to three feet high, and develops itself best when grown singly. A pretty clump may be made of three plants placed triangularly about fifteen inches apart. They make a pretty center for a circular bed. Zinnia may also be used as a bedding plant, though we much prefer to see it used as a

center for a bed, or in the border. The colors are various, some being very pure and brilliant. It remains in bloom a long time. The double Zinnia, when it "comes" good, is very fine. It has been likened to a Dahlia; but, to our apprehension, it is much more like a double Marigold in form. The Zinnia is one of the best, as it is also one of the most popular of annuals.

2. Clarkia, (*vars.*)—Sow the seed very thin in drills or circles about an eighth of an inch deep. They may be transplated when an inch or so high. It is a good plan to sow a few seeds where the plants are to remain, and thin them out, as they are somewhat troublesome to handle by the beginner. The Clarkia grows about two feet high. The color is mostly rosy red. It is a very pretty plant for the border. It is best grown singly. The most desirable are C. marginata, integripetala, nereifolia, and elegans.

3. Candytuft, (*Iberis, vars.*)—Sow the seed thinly in drills or circles about an eighth of an inch deep. It may be transplanted when an inch or so high; but as it blooms finely in masses, it is well to sow it where it is to remain, and thin it out. From six to a dozen plants may be left in a clump. It may also be grown singly. It makes a fine edging for a bed or border. It grows from six to twelve inches high. The colors are various. Iberis speciosa is one of the best. It is a very neat and pretty plant.

4. Tropæolum, (*vars.*)—We include here only the *dwarf* kinds. Sow two or three seeds where the plants are to remain. Place them about three quarters of an inch deep. This is better than to transplant them at this season. The dwarf Tropæolum grows scarcely more than six inches high. The colors are mainly yellow and crimson. It is a very fine and showy plant for the border in single specimens. It is also a good edging plant, and equally as good as a bedding plant. It will in time become very popular, as it deserves to be.

5. Calliopsis, (*vars.*)—Sow the seed thinly in drills or circles, about a quarter of an inch deep. Transplant when about an inch high. Or, sow a few seeds where the plants are to remain, and thin them out. It should be grown singly. It grows from two to three feet high. The colors are mostly reddish brown and yellow. It blooms constantly and abundantly, and is very desirable in the middle of a border.

6. Portulaca, (*vars.*)—Sow the seed on the surface, and sprinkle a little fine earth over them; after which press the earth upon them with more than usual care. The seeds are very small, but vegetate readily when the weather becomes warm, and not till then. The plants are so troublesome to handle, on account of their small size, that it is best not to transplant them, except to fill up vacancies. Portulaca grows close to the ground. The colors are various. It blooms very freely, especially during our hottest weather. The chief objection to it consists in the fact that the flowers only open when the sun is out; still it is a pretty and desirable plant. After being once grown, the seed will come up abundantly in succeeding years. It makes a very pretty edging plant, and in some situations may be used effectively for bedding purposes. In this case only one color should be used, and that a bright one, such as rose or crimson.

This completes our second list of annuals. We may add here, that weeds should be eradicated on their very first appearance, so that they may not in the least interfere with the growth of the young seedlings. Such plants as require support should be neatly tied to stakes, these being as much as possible concealed. We abominate sticks among plants, and never use them except in case of real necessity. Of the plants in this list, the only ones likely to want support are Calliopsis, Clarkia, and Zinnia, but these not always.

ORCHARD CULTURE.

BY P. G. BERTOLET, OLEY, BERKS CO., PENN.

It may be that the "skillful market gardeners" you speak of, have profited by the lesson of the dying father, who had nothing to leave his two sons, save a piece of land, who enjoined upon them that they should *dig* it diligently, and they should find a mine of gold in it (not more than a foot from its surface). They were faithful to their paternal injuction, and the ground in consequence became very productive, and they soon discovered the gold therein—the reward of their labor.

This is the right way—the lock to success, no doubt, where gardening operations are to be carried on, and will yield a golden harvest in return, especially about cities and towns; but then it does not follow that this system would be universally, and in all, and every situation, equally profitable. "Double cropping" orchards, in places remote from market, will not pay.

1. We contend that *deep* plowing, or digging about apple-trees, so as to enable root-cropping, is injurious to our trees, in causing *inferior fruit* and premature decline in trees.

2. When the grass and other "robbers" of nourishment are kept out of the way of the trees, with proper top dressing, (which may be raked in the top soil,) the tree will survive longer, grow more vigorously, bear the finer and better fruit. (*Note.*—Nature produces the most splendid trees by her simple system of natural mulching every year.)

3. We believe in the judicious selection of situation and proper preparation of the ground by deep plowing or digging before planting the trees of the orchard.

My ancestors planted an orchard in this place, over a century ago, on a fine, dry, and elevated situation. It so happened, that when the trees were planted, one had to be set in a hollow to fill up the rows. This, in consequence, became inaccessible to the plow, and has long survived all its contemporaries, which were plowed to premature decay and death by the over-diligent digger and double-cropper of the soil. This tree, though, we are positive, over one hundred years old, is yet vigorous, apparently healthy, beautifully symmetrical, and bears its fruit every season, which is of fair appearance, though of indifferent quality; but then this latter modern requisite was not so material in the days of "*apple-jack.*" Other cases in proof could be cited *ad infinitum.*

We doubt not but that we shall agree perfectly upon the subject of ORCHARD CULTURE, when we come to understand each other a little better. We wish that the Editor would express himself more explicitly as to the particular species of cultivation he recommends and approves of for apple orchards. If your cultivation of the ground in orchards means manuring, mulching, liming, and various other fertilizing applications as top-dressings, we agree perfectly; but if it means *digging* to such a depth as to enable "root cropping," we must agree to disagree, notwithstanding all the "hundred skillful market gardeners" to the contrary. It would not pay in this locality at least. Apples we can ship in barrels to market, but garden truck not to any advantage as yet. We are too remote from market to make that department of horticulture available. This section is, strictly speaking, mainly agricultural, of which the chief market staples are wheat, rye, corn, and oats—some fruit. This valley is fertile, and beautifully situated, and its soil seems to be well adapted to almost any kind of fruit culture of this latitude, and I doubt not will ere long make this branch of industry more a source of profit than heretofore.

It does not seem proper to us to mix up the orchard and the truck-garden. This system of blending the two, and practicing a system of "double-cropping" may pay well in the vicinity of New York City, but would certainly not in this locality. Besides, we still maintain the opinion, that vegetables grown in open ground, and not under your low-trained trees, but under the proper in-

fluence of solar light and heat, will prove far more perfect and delicately flavored, than such as are grown by gardeners in shady places. We doubt whether the most "skillful" will deny this. Corn grown for "cooking" will illustrate this most "palatably." It is only when grown away from shady places that it attains its excellent crispy quality and delicate flavor; and this applies with equal force to most vegetables carried to market, the cultivation of which is found so profitable.

Light can not have the same influence upon the roots where the soil is annually disturbed to such a depth, by digging or plowing, where the fine rootlets, or spongioles, as some call them, must necessarily be broken off, to say nothing of the danger of barking the major bracing roots. The tree is in consequence compelled to send its roots to the *lower* regions for its supplies.

You say, "If root crops are robbers, so is your sward." So it is; but we do not assert that there must be sward—though fine it would be in appearance—but we do believe that plants usually grown by market gardeners are larger individuals than grass, and will require more air, more carbon, and consume more water than a few slender blades of grass, and hence more detrimental to our fruit trees, especially during dry autumns. (*Note.*—The pointed grasses will, especially after a thunder shower, also attract more electricity to the soil than cabbages or potatoes, thereby stimulating the soil, etc.)

Agricola is the older and Horticola the younger handmaid of the noble tiller of the soil. Intimately as they seem to be associated, they will yet hardly consent to become metamorphosed into one and the same being. Agricola is always too busy to concern herself much about the flowers of the other, while Horticola will not submit to have her fine, flower-wreathed head and bust fixed on the body of a horse or an ass, and hitched to a plow for agricultural operations among her fragrant fruit trees, for the sake of cultivating root crops, for some double-cropper. Such transmogrification was practiced of old, if we may credit their statuary, but has become obsolete now.

Your articles of faith in regard to "Orchard Culture" are admirable, only they have a little too much of the dig about them for this locality; otherwise we endorse them heartily.

The 18th article strikes us as especially good. You go for excluding "every unclean thing" from the orchard. This, of course, excepts the birds, young turkeys, and chickens. If one or two trees do become old and decayed, and fail to yield much fruit, don't chop them into fire-wood at once. If the trunk be hollow, it will afford a snug home for the owl and the wood-pecker; the former will be invaluable in ridding the orchard of such unclean things as rats, mice, etc., and the latter will feast on the borers and other unclean insects. Birds should be more encouraged about orchards.

It need scarcely be added that the writer is simply an amateur, a lover of the subject, and not practically one of the skillful market gardeners you were pleased to advert to. We fear it is often the case that those who dig least have the most say. Yet be assured that our conclusions have not been drawn hastily at all, but taken from personal observations.

We never doubted for a moment the sincerity of any of the editors of the HORTICULTURIST. Nay, we are certain it has done immense good in its several departments of pomology, floriculture, etc. It is, moreover, self-evident that it has been mainly a work of love and devotion, the reward of which can be better seen around many dwellings wherever this welcome journal of rural art and rural taste has circulated. Many beautiful flowers now bloom where before existed nothing but vacancy; fruit of improved quality has displaced inferior kinds; houses, when now building, are fashioned after models set forth in this periodical. In fine, it has awakened a general inquiry throughout the land, the fruits of which will become more apparent "when the sword shall be made into the pruning-hook," and when men, instead of killing each other, shall vie in handling, to the best advantage, this emblem of peace and prosperity.

(The labors of an editor must needs be arduous and difficult. It can hardly be expected that more than general rules can be laid down; it would be fallacy to enter into all the individual particulars of every locality. Every cultivator must here, as in every other pursuit, possess some adaptation and judgment of his own to enable him to operate successfully in his particular case.)

"The pen is mightier than the sword," is an old saw, and as we have never learned to handle the latter, and the former but imperfectly, we are apprehensive of getting the worst in continuing the controversy with an editor, who, as a matter of course, is expected to known every thing.

Be assured of our good wishes, and of many thanks for the honorable notice you were pleased to take of our imperfect article on Orchard Culture in the March number.

[Your article has made us very much your debtor. We dislike controversies; happily, there is no danger of one in this case, for there is really, it would seem, little or no difference of opinion between us. Our remarks about "double cropping" were not intended for the orchard. When an orchard is established we would exclude every thing of the kind. We certainly do mean manuring, liming, and the application of composts; but we do not mean destroying the roots of the trees. We will explain this very soon; for the moment we are so ill as to make writing painful. Thank you for your endorsement of our articles of faith. They contain nothing that we do not practice. The labors of an editor are arduous indeed; they are especially so when he is not well. We reciprocate heartily all your good wishes, and shall always be glad to hear from you.—Ed.]

CULTIVATING ORCHARDS.

BY NOVICE, PLATTEKILL, N. Y.

May a plain farmer presume to suggest some exceptions to one or two of the almost unexceptionable articles on orchard culture, in the current number of your journal, page 94. In allusion to articles 17 and 18, I must dissent, on the score of pecuniary profit, from letting an orchard lie bare of all vegetation, save the little trees whose roots for many years are restricted to a far less area than that we allow them in anticipation of their future need. Article 15 says, "We believe in cultivating an orchard." I suppose the whole orchard, and so thoroughly as to eradicate all grass and weeds. So say I. And I as fully respond to the idea inferred in a query which I find on the 154th page of vol. 17: "But is it necessary that the wide space between the rows of vines (trees) should be given over to idleness during two or three (10 or 12) years?" in view of the fact, that 500 bushels per acre of roots could be grown thereon, with but little more labor than would be requisite to keep down grass and weeds. The trees, the meanwhile, growing quite as fast as should be permitted, if the root crop were manured, considering the liability of rapidly developed trees to "winter killing," etc., as per article 28.

Some little experience, and forty years' observation, have convinced me of the possibility of plowing an orchard without incurring the disastrous effects your correspondent, P. J. Bertolet, deems inseparable from the practice, "just as sure to cripple and kill as a raking fire of cannon is to destroy a body of infantry," page 89.

Many years ago I concluded to dispense with plowing a young, bearing orchard, and so stocked it down with clover and timothy; but before many years discovered that my trees were fast going dead, and that something more than top-dressing must be resorted to. Not wishing to hazard too much, I plowed up half an acre and planted it with ruta-bagas. The result was, I could,

before autumn, count every tree on the plowed part, at a quarter of a mile's distance, from the deeper green of the foliage. Since then I have alternated grass, grain, and and root crops regularly, as on my other fields, while never a tree has been killed or seriously injured by the practice. But I would advise all fruit-growers to dispense with the grain crop, as my former experience argues against it. And as the tree roots extend and occupy the ground, restrict the limits of the root crops proportionately.

The editorial remarks upon P. G. Bertolet's essay appear to me perfectly rational; but there is a point, considered by your correspondent of vital importance, which I would be pleased to see a little more clearly elucidated. Laying no claim to critical knowledge of the laws of vegetable physiology, I am at a loss to comprehend how solar light operates upon the roots of trees, immured, as they naturally are, in earth; a substance so entirely impervious to that easily intercepted agent, that a covering sufficient to secure moisture to the roots, is sufficient to exclude any perceptible amount. And if, in addition, a covering of grass or mulch interposes, their chances of sunlight, if beneficial, seem to me slim indeed: while still the genial warmth attendant upon sunbeams, undoubtedly permeates the soil to a a considerable depth, and produces the effects, for ought I know, ascribed to light.

Your correspondent asserts, (and may be correctly,) that the proper elements must first be eliminated, (as near as I can read him,) in the roots, by the agency of light, before they can be converted into Bartletts and Pippins. I am at a loss to understand the intended application of the word eliminate. Webster defines it, to thrust out, to expel. Thus defined, his remarks seem to me obscure. I may, of course, expose my ignorance, but no matter, if thereby it be corrected, when I say that somehow I had imbibed the idea, that the functions of the roots, other than that of a support to the tree, are, to absorb from the soil the elements of which the tree, every part of it, is constituted mineral and organic, in a condition of aqueous solution, which, through their sap vessels, and those of the trunk and branches, is elevated to the leaves, where, through the agency of light, warmth, and atmospheric air, the elements are assimilated, and flowers, fruit, bark, woody fiber, etc., are each supplied with its respective aliment through pores adapted to the transmission, after the proper consistency is attained by evaporation in the leaves. But do not the roots of a tree absorb some extraneous elements combined in solution with its appropriate food? What becomes of this? is it conveyed back to the roots, and by them thrust out, expelled, eliminated, and is light necessary for the exercise of this function?

With respect to the potato, it seems to me that friend Bertolet is wide of the mark, if he has any idea that light admitted to the roots or tubers has any thing to do with correcting its native deleterious properties. We farmers know too well the effects of sunlight upon the tubers to make even the presence of our favorite Bramahs in the plantation permissible.

I should regret to occupy any space unprofitably in your deservedly popular journal, but thought if I could elicit some few remarks on the influence of light in general, in the vegetable economy, and on the roots in particular, from so reliable authority, it might be interesting to more than one Novice.

["Plain farmers" may always make suggestions; indeed, we very much like to have them do so. The wide spaces between the trees may certainly be used while the orchard is in process of formation; only be careful not to crowd on the roots of the trees. The quotation you make from former remarks of ours is quite applicable here. Narrow the space from year to year, and finally give up the ground entirely to the trees. Read Mr. Bertolet's article in the present number. If you read solar heat for solar light, the subject will be clearer. But as Mr. Bertolet is a man of science, we will leave him to explain his

meaning. We will speak afterward, if necessary. We will only say now, that you have a very good conception of the subject. The style and manner of your article are such that we hope we may often hear from you.—Ed.]

THE PROPAGATION OF THE DELAWARE.

BY HORTICOLA.

Not only Dr. Grant, but a great many other cultivators of the Delaware, say that it is difficult to propagate it, and had not an accident taught me the contrary, I should think so now myself. My former experience had corroborated the assertions of the vine propagators. It is true that *layers* of the Delaware grow easily enough, but it is equally true that cuttings, as well as single eyes, root with difficulty when treated in the usual way; they require unremitting care and attention, and extraordinary arrangements. That I lost, last spring, four hundred and ninety-five eyes out of five hundred which I had planted, and that only five lived, would certainly not prove the point. They were twice left to their fate during an involuntary absence from home which I could not avoid; for hardly any other plant, except perhaps a Cactus or an Aloe, would have endured what the eyes of the Delaware were destined to suffer.

After I had prepared the five hundred eyes mentioned above, I had sixty-eight left which I was unwilling to plant. I threw them into a basin full of water, after I had cut them in pieces of two eyes each. The lower cut was made close under the eye, the upper one about an inch above the eye. So they had lain in the water several weeks. At last, in the first week of April, I happened to see them again, and I at once concluded to plant them in the open air, believing then that the number of plants from the eyes would, at all events, surpass my most sanguine expectations. It was, of course, natural that I should have been unwilling to bestow any more care upon cuttings. They were planted in a bed of stiff clay without any further preparation, but so deep that the upper eye was about an eighth of an inch below the ground. Not long after I noticed that they were sending forth young shoots and leaves. I did not, however, pay much attention to this fact; for I expected with certainty that they would die one after another. This being not the case, I pulled one of them up, and found, to my great surprise, that it had a large number of fine roots. I planted it again, and watered and shaded it a little, which had the effect that it continued growing. Last fall I took them up and heeled them in, because I feared that the frost might injure them, as that part of my garden where they had been planted is very wet on account of a rock which, in the form of a narrow ridge, stretched across it. Those sixty-eight eyes gave me without any trouble thirty-four very superior plants.

Last fall I planted six or eight hundred cuttings of the Delaware, the Diana, and a great many others kinds, and covered them up a little, induced by Mr. Fuller's advice. Next fall I shall faithfully report the results obtained. Mr. Fuller has, as the Editor of the Horticulturist once wittily said in one of the meetings of the Brooklyn Horticultural Society, "a very sharp knife, with which he cuts every thing and every body," but he cuts, like a faithful surgeon, not to cause pain, but to heal. I feel that I am under much obligations to him for his frank statements of many secrets, so called, the keeping of which, or at least the endeavor to do so, belongs to times past. Not long ago a man hesitated to explain to me his method of cultivating the Primula sinensis as successfully as he pretended to understand it.

[Horticola, we know, is very fond of experimenting, and when he discovers a good thing, immediately calls in his horticultural friends and neighbors to enjoy it with him.

His experiment with the Delaware is very interesting; we hope he may repeat it with even greater success. Many of our readers will no doubt try it at once. There is danger, in leaving the eyes in water too long, that they will rot. It is the hardness of the wood of the Delaware which makes it so difficult to propagate it in the usual way. When placed in a warm, moist heat, it roots readily enough. Do let us hear from you again, Horticola.—Ed.]

EDITOR'S TABLE.

To Cotributors and Others.—Communications, Letters, Catalogues, Periodicals, Remittances, Packages by Express, Advertisements, &c., should be directed to Mead & Woodward, Editors and Proprietors, 37 Park Row, New York. Exchanges should be addressed to "The Horticulturist."

The Craig Microscope.—We had left on our table a neat and compact microscope, invented by Mr. Craig. We have been testing it with a great deal of satisfaction and pleasure. Having but one object-glass, it requires no focal adjustment; and yet it magnifies about 10,000 times. There is no end to the amusement it will afford both old and young. We can think of scarcely any thing that will yield more pleasure of an evening in the social circle. The wonders of nature become still more wonderful when viewed through the medium of this powerful little instrument. But to the botanist, and all who take delight in studying the minutiæ of the natural world, it has a peculiar value. It can be carried in one's pocket, and is always ready for use. Its low price puts it within the reach of all. It may be found advertised in our columns.

The Culturist.—This is a new candidate for public favor, to which we extend a cordial welcome. It is devoted to the farm, the garden, apiary, poultry yard, rural architecture, and the fireside. It is a quarto of 12 pages, and is edited by A. M. Spangler, formerly of the "Farm and Garden." The subscription is only twenty-five cents a year. We have seen but one number of the *Culturist*, and the contents of that are varied and good. As Mr. Spangler has been in the traces before, we may conclude that he will make the *Culturist* a good thing, if properly sustained, as he ought to be. We wish it much success.

Winter Pears.—We are very greatly indebted to Messrs. Ellwanger & Barry for a box of winter pears, containing *twenty* varieties. They are in splendid condition. We append the names of them: Beurré Stoeppert, Black Worcester, Gros Colmar, Sagaret, Suzette de Bavay, Bezi de Veterans, Colmar des Invalides, Prince's St. Germain, Cadette de Vaux, Great Britain, Beurré Duhaume, Haddington, Chaumontel, Tarquin, Leon le Clerc de Laval, Hericart de Thury, Reading, Bezi d'Esperin, Beurré Leon le Clerc, Willermorz. Up to the present moment (April 17) only two, Suzette de Bavay and Willermorz, have ripened, and they are very good. There has been a loud demand for good winter pears, and a successful method of keeping them. These requirements are here met. There is a case in point, also, of a gentleman who recently sold a barrel of Vicars in New York for the nice sum of $30. We do not know how Messrs Ellwanger and Barry kept these pears, but hope they will inform us. We have kept them very successfully in barrels in a cool, dry cellar, very much as we do apples. We shall prepare portraits and descriptions of the newer kinds of these pears, and lay them before our readers.

Dahlias.—We received from our Balti-

more correspondent, too late for our last number, the following additional remarks on the Dahlia. They will be very interesting to Dahlia growers:

"It may not be inappropriate to make the following addenda to the remarks on the Dahlia in the February number of the HORTICULTURIST. They are copied from the 'Florist and Pomologist,' London, February, 1863, and are written by John Keynes, one of the leading Dahlia growers in England.

"'Last' year the best flower was Lord Derby. I consider this the best self Dahlia I have ever seen. There is a white of very first-rate quality in Miss Henshaw, and a dark variety in Donald Beaton; these, with Lady Elcho, Delicata, and Bob Ridley, comprise the six best flowers of the year. The next best six flowers are Goldfinder, Empress of India, Cygnet, Imperial, Gen. Jackson, and Model. There are six others which, although second class, will be useful for a season or two, namely, Black Prince, Countess Portsmouth, John Warren, Mrs. Bush, Capt. Harvey, and Handforth Hero.

"'Fancy flowers are very few in number. Mrs. Crisp and Reliance are the only two that will stand the test. There has been a great deal said about amalgamating the fancy flowers with what are termed the show varieties. Now, I think the best division would be, the best twenty-four self varieties, and the best twenty-four striped, tipped, edged, or shaded; this would make two distinct classes, and prove very attractive.'

"He concludes with the following list of the new Dahlias for 1863, placed according to his own idea of merit, which perhaps is worth copying, to see if time will verify his prediction.

"'Charles Turner, (Keynes;) Caractacus, (Turner;) Count Cavour, (Edwards;) Serenity, (Rawlings;) Lord Wiltshire, (Dodds;) Mrs. Hogg, (Rawlings;) Lord Dundreary, (Turner;) Lord Russell, (Silver;) Princess Alice, (Edwards;) Bellona, (Harrison;) Charlotte Dorling, (Turner;) Mrs. Hobbs, (Hobbs.) These twelve are the cream of the show flowers for this season.'

"*Fancy Flowers.*—There are six, I think, very first rate, namely: Patent, (Keynes;) Countess Shelburn, (Turner;) Mrs. Wickham, (Rawlings;) The Bride, (Rawlings;) Symmetry, (Legge;) The Beau, (Rawlings.)'

"'All these,' he continues, 'will give satisfaction to every buyer. I hope next season will prove more prolific in good things. I bloomed 35,000 seedlings, and have hope of something good.'"

March 24th, 1863.

THE ASPARAGUS BEETLE.—We last month briefly alluded to the interesting discovery of Mr. Marié, that this beetle passes the winter in the imago or perfect state, concealed under the bark and among the moss of trees. This fact is contrary to the popular belief, but places the destruction of this beetle within the reach of all who will take the trouble to seek him in his hiding place. We visited Mr. Marié before he had completed their destruction, and had an opportunity of seeing the conditions under which they were found. They huddle together in masses under the loose bark, and also among the thick moss adhering to the trees. This enables one to kill numbers of them as it were at a single blow. They do not seem to be particular on what kind of tree they seek shelter, for quite as many were found on the Red Cedar as on the Hickory or Oak. We meant to have looked for them among the old stalks lying on the Asparagus bed, but forgot to do so; but we should not probably have found them there. We regard Mr. Marié's discovery as a very interesting and important one. It is singular that nobody should have made it before. We trust that such of our readers as reside within the district covered by this beetle will take advantage of this discovery, and begin the destruction of the insect at once, before it has spread farther. As far as we can learn, it is at present confined to New York Island and a portion of Long Island. We have no knowledge of its having passed the Harlem River and we trust it will be destroyed within its present limits. If it is left to itself, the destruction of Asparagus as a luxury for the table is quite certain, if we are to judge from the effects already produced by it.

A CHEAP PAINT.—In these times of high prices, any useful thing that is really cheap will be sought for with avidity. We therefore take pleasure in laying before our readers the following account of a cheap paint received from John Sill, Esq., of Cedar Hill, Albany County, N. Y. Mr. Sill has used it extensively, and speaks from his own knowledge. His own house, a very large one, was painted with it seven years ago, and the color is now as good as when put on. The following is Mr. Sill's account:

"The cheap paint, or, rather, the cheap substitute for paint used by me is very simple; and after several years' experience, I am of the opinion that for certain kinds of outside work it is superior to oil and lead. You make and use it as follows:

"Take the common *yellow* water lime (or cement) such as is made at Manlius, N. Y., and is sold by Mr. A. A. Dunlop, of Albany, for about two dollars per barrel. Put in a common pail about three quarts, mix it with cold water till about the consistency of cream, add a small handful of fine salt, keep it well mixed, and your paint is ready for use. It can be applied with a whitewash or paint brush. I prefer the latter, selecting a large one, because it can be more evenly and neatly applied.

"This paint can only be used with success on outside brick or stone work. For the country, where the buildings are exposed to the full force of sun and rain, it will outlast any oil paint ever used. In fact, it is indestructible, preserving to the last its original color, which is a handsome yellowish drab.

"In applying it, choose, if possible, a cloudy damp day, so that the cement will set before the water is exhausted, which will be the case at once if worked in a hot sun. In the end, however, it will not make the least difference, because each rain storm that comes sets the cement harder and harder till it becomes like stone itself. Therefore, don't be alarmed, if, after being put on and dried, you can brush it off like dust; let it alone; a short time will make it stone. You can change the color if desired, by using a portion of the brown (or Kingston) cement. I have used the latter for painting the stone bases, &c., with good effect.

"A new brick building requires two coats. It will then remain perfect for many years. I first used it in 1857, on an old-fashioned house, and it is to-day as perfect as when first put on. Its cost, you see, is a mere nothing, one barrel of cement being enough for two coats on a large building."

THE PHANTOM BOUQUET: a popular Treatise on the Art of Skeletonizing Leaves and Seed Vessels, and adapting them to Embellish the Home of Taste. By Edward Parish, Member of the Academy of Natural Sciences of Philadelphia, etc.—Our readers may remember that about a year since we described a beautiful vase of skeletonized leaves exhibited in Brooklyn by Mr. Platt. The process of forming these very interesting objects is described in the little manual before us, in plain and simple words that all can understand. We hardly know of any more beautiful ornament for the mantel or parlor table, than a vase or bouquet of skeletonized leaves. By a process of maceration, the cellular tissue is all removed, and nothing is left but the midribs and veins. These are then bleached, and we have something which may very well be likened to lace work produced by fairy hands. We commend the work most heartily to all, but especially to our lady friends. It is published by J. B. Lippincott & Co., Philadelphia.

A WELL-BESTOWED HONOR.—The proceedings of the Massachusetts Horticultural Society have of late been peculiarly interesting. At the last election, Mr. Hovey was elected President. At the last meeting the late President, Mr. Breck, received the testimonial of an elegant silver pitcher and a dozen silver forks, and Mr. Rand, chairman of the Library Committee, received an award of $100 for important services rendered in his official capacity; but the most interesting ceremony of all was the presentation to the Society, by Mr. Whitmore, of a fine mar-

ble bust of the Hon. Marshall P. Wilder. We very heartily congratulate Mr. Wilder upon this well-deserved compliment. We know of no case in which all the parties have been more equally and happily honored. We can conceive the whole ceremony to have been a very touching one. But in a case like this Mr. Whitmore is entitled to speak for himself, and we publish his letter entire, as also the proceedings which took place after the reading of the letter, as they appear in a local paper.

BOSTON, March 31st, 1863.

CHARLES M. HOVEY, Esq., President of the Massachusetts Horticultural Society:

DEAR SIR,—I have placed in the hall of the Massachusetts Horticultural Society a bust, by Henry Dexter, Esq., of Cambridge, of our valued associate, the Hon. Marshall P. Wilder, and offer it for the Society's acceptance. In thus preserving the portrait of one whose labors have so long been freely devoted to the interests of our Society, it seems proper to recall the variety and extent of his services.

For more than thirty years Col. Wilder has been connected with this society, and has not only given liberally of his money, but has devoted his time and influence to the furtherance of its objects. Beginning at a time when the importance of such a society was not appreciated, and its objects seemed almost visionary, he has seen it gradually rising in public estimation, and exerting a constantly increasing influence among the land-holders of New England. He has seen the fruit of that influence in the taste which embellishes the residence of the wealthy—in the enterprise and intelligence which have elevated the position of the farmer, and in the improvement of every branch of husbandry which has so grandly increased the national wealth.

While the society has been the inciting power of these important movements, it has been compelled to struggle with the difficulties attendant upon all pioneer enterprises. Its friends may at times have been discouraged, its means have been curtailed, and its prospects obscured. Col. Wilder has deserved the thanks of the society for persevering in its support, and in one instance at least—the case of the Mt. Auburn Association—for having made such wise and prudent arrangements as have secured a permanent fund for its purposes.

I need hardly add that Col. Wilder's connection with this society is not his sole claim to public distinction. He has repeatedly been called upon to occupy offices of trust and responsibility, and has ably discharged the duties devolved upon him. As a merchant he has given a notable example of integrity and ability, and his personal character needs no encomium from us, who have been intimately associated with him. The particular interest, however, which Col. Wilder has always evinced in the success of this and kindred societies, renders this a peculiarly fitting place to present such a memorial. I have therfore to request you, in behalf of the Society, to receive this bust, and to assign it a fitting location, in order that it may remain surrounded by the emblems of the pursuits in which he has delighted, as a memorial to us and our successors of our appreciation of the character and labors of Marshall P. Wilder; and wishing, my dear sir, that your administration may prove as fruitful of good to the society as have those of your predecessors, I remain yours faithfully,

(Signed,) C. O. WHITMORE.

"The bust was then uncovered by the Librarian, and was received with hearty applause.

"Mr. Leander Wetherell, of Boston, then asked leave of the President to read the following resolutions, which he desired to offer for the consideration of the Society, which was granted:

"*Resolved*, That, the members of the Massachusetts Horticultural Society gratefully accept this appropriate gift of C. O. Whitmore, Esq., and we do hereby tender to him their cordial thanks for his most generous, tasteful, and elegant donation to this Society.

"*Resolved*, That, as members of the Massachusetts Horticultural Society, we are highly gratified in being able to add to our valuable collection of ornamentations, so fine a marble bust of one who, for more than thirty years, has been an active member, patron, friend, and constant benefactor of our Society; for eight years its President, in which time, Horticultural Hall was built; to whose conservative, conciliatory, and wise influence the Society is largely indebted for that amicable settlement with the Mount Auburn Cemetery Corporation, from which a large income has already been received, and by which a perpetual revenue is to accrue to its funds; nor would we, as members of this Society, be unmindful, that in thus honoring our own fellow-citizen, we are paying deserved homage to one who has richly earned for himself a national reputation by serving the United States Agricultural Society six years as its efficient President, and also as President of the American Pomological Society for the last twelve years, which office he still fills.

"The resolutions were adopted by a unanimous and cordial vote."

HOLLY'S COUNTRY SEATS.—This is a new work, containing lithographic designs for cottages, villas, mansions, etc., by Mr. Henry Hudson Holly, of New York. In a new

work on architecture at the present day we ought to look for some large degree of freshness and originality, either in design or construction; the designs at least, so far as good taste is concerned, ought to fully equal the best of those already before the public. In this respect, the work before us does not equal our wishes. The brief account of the history of architecture is interesting and well written, and the introductory chapter is to the point. Of the designs that follow, some are very good, others are awkward and far-fetched, and others, again, are open to criticism either in design or detail. The bird-house finish to the chimneys, and the puny little dormers stuck all over the roofs, strike us as being in very bad taste. Several otherwise good designs are absolutely spoiled by forcing in needless accessories of this kind. Carrying the chimneys up on the outside of the house, especially in such designs as No. 24, we conceive to be in bad taste and to be avoided as much as possible. We mention these things with the hope that Mr. Holly will avoid them in his practice. We should have been better pleased with the book if some portion of it had been devoted to the details of interior work. In other respects the book is a very readable one. It is published by D. Appleton & Co., New York, and is very handsomely printed on good thick paper.

Orchard Culture and the Gardener's Monthly.—Some remarks in response to the *Gardener's Monthly* are crowded out this month, our practice being to omit our own matter when pressed by correspondents. We wish to say, however, briefly, that our article in the February number was intended partly for our cotemporary, and partly for others who had failed to understand our position. There were two passages in the first article in the *Gardener's Monthly* at which we felt hurt, and which seemed to us not characterized by that fairness which we had always found in our cotemporary; but we are now satisfied that nothing of the kind was intended. We shall avoid all such conclusions hereafter. We need hardly say that we reciprocate very heartily all the kind expressions in the last paragraph of our cotemporary. We may feel hurt, but we shall not easily be offended.

CATALOGUES, Etc.

H. Southwick & Son, Dansville, Livingston Co., N. Y.—Wholesale Catalogue of the Livingston Nursery, for Autumn of 1862 and Spring of 1863.

J. A. Bruce & Co., 46 King street, Hamilton, Canada West.—Descriptive Catalogue of Seeds for the Farm, the Kitchen Garden, and the Flower Garden. Twelfth edition. 1863.

T. C. Maxwell & Brothers, Oldcastle Nurseries, Geneva, Ontario Co., N.Y.—Descriptive Catalogue of Ornamental Trees and Shrubs, Roses, Bedding and Border Plants, Bulbs, etc.

Thomas Morgan, Stamford, Conn.—Annual Catalogue of Trees, Plants, etc.

A. S. Fuller, Brooklyn Nursery, Brooklyn, L. I.—Descriptive Catalogue of Small Fruits, and Ornamental Shrubs, Plants, and Vines.

T. C. Maxwell & Brothers, Geneva, Ontario Co., N. Y.—Descriptive Catalogue of Fruit Trees, Plants, and Vines, cultivated and for sale at the Oldcastle Nurseries.

J. Knox, Pittsburgh, Pa.—Price List of Small Fruits, etc., for the Spring of 1863.

J. M. Thorburn & Co., 15 John street, New York.—Annual Descriptive Catalogue of Flower Seeds, with Practical Directions for their Culture and Treatment. Also, a List of Beautiful French Hybrid Gladiolus.

Andrew Bridgeman, 878 Broadway, New York.—Descriptive Catalogue, No. 6. New and Select Bedding Plants, Roses, etc.

W. Brown Smith, Syracuse Nursery, Syracuse, N. Y.—Descriptive Catalogue of Fruit Trees, Vines, Plants, etc. Also, Descriptive Catalogue of Ornamental Trees, Shrubs, Roses, etc.

John W. Adams, Portland, Me.—Catalogue of Fruit and Ornamental Trees, Evergreens, Grape Vines, Roses, etc.

Washburn & Curtis, (late Barnes & Washburn,) Harrison Square, Mass.—Catalogue of choice Flower Seeds, selected from the Stocks of the most celebrated European and American Growers. To which is appended a Supplementary Catalogue of Flower Seeds for 1863.

H. A. Truax, Rose Hill Nursery, Lyons, Iowa.—Catalogue of Fruits and Grape Vines, Dwarf Fruit Trees, Strawberries, Raspberries, Currants, Evergreens, Roses, Shrubs, etc.

D. F. Kinney, Rock Island, Ill.—Catalogue of the Black Hawk Nursery.

Joseph H. Hargis, Lagrange, Mo.—Catalogue of Fruit and Ornamental Trees, and Plants.

CORRESPONDENCE.

MR. EDITOR,—*Dear Sir*:—Our mutual friend, "Fox Meadow," appears to be determined to have me out in his controversy with Mr. Bright, of Philadelphia, respecting inside, divided, detached borders, in which to grow the exotic grape vine under glass. In your last issue, the former gentleman, after alluding to his knowledge of the place where I was employed "when a lad in the teens," says: "In this dear old place, some years after friend Chorlton's boyish days were past, we saw there an inside, divided, detached border." Now, if Mr. Fox Meadow had been a fellow-apprentice along with your humble servant at that time, he would have had to lift up and heave over many a three-gallon can of, not only clear water, but good old odorous dung-hill drainings, to supply the ever-craving and hungry rootlets of the vines planted therein; and he would know also that these vines were cut down, each alternate one, exactly as friend Bright has so ostentatiously spoken of as being original with himself. This set of vines, however, were not intended as a permanency, but simply to make up for short crops otherwise, and afterwards to devote the compartments to other purposes in plant-growing. So far the expectation was realized, and the vines, after some two or three crops, (each alternate vine being allowed to bear,) were removed. This is only one simple example of thirty years or more now gone by, but I could refer to others, if it were necessary, to prove that Mr. Bright has not yet found out any new feature in grape culture. All his visionary theories, "special fertilizer" included, are all "bosh," and, as you say, we may put them into one grave, and bury the "errors with the past," and let old experience go on his way saying, there lies a batch of mistakes. Before consigning them to the tomb, however, let us say a word or two in further explanation. When Mr. Bright first heralded his new plans before the public, he did so with such a flourish of words and empty boast, as to make any sensible horticulturist think he could do no harm, as the pedantry could be easily detected. It appears, however, that all the fools were not dead, and some of them, I believe, have had to "pay the piper." Speaking for myself, I concluded the best thing was to let bombastic error alone, because, when this noisy "critter" is aroused, you can get no sound argument out of the opponent, but have generally to submit to abuse in lieu of reasonable demonstration. This submissiveness, however, does not hold good under all circumstances, and as "Fox Meadow" is now compelled to act on the defensive and crack the nut Mr. Bright has given him, I would advise the latter gentleman to stand from under, or the former may in future bring forward some other experience to bear upon the subject, besides being in possession himself of a very heavy demonstrative hammer, fixed into a handle of long practical observation. If Mr. B. had not been scared out of the woods by the owl too soon, but had sensibly stayed until he

had thoroughly examined how easily the decomposing leaf-mould, as it is acted upon by *Nature's* chemistry, cracks the hard hickory, succors it while a young plant, and maintains it as a large tree in after years, he would never have put that question.

Allow me to say, in conclusion, that all Mr. B.'s excuses and quotations from scientific authors, will not enable him to prove that leaf-mould or carbonaceous soil, when *properly* applied, is unsuitable for the grape vine, or that it is more productive of *injurious* fungi than any other materials which he himself recommends; neither can he prove that he has so far shown up any thing new; that his divided, detached, inside borders are original with himself, or are calculated to be any thing more than equal to a tub or large pot, in which grapes were grown before he was born; that his cutting down system was not previously practiced, or that his "special fertilizer" will accomplish as much good as either dung-hill drainings or diluted guano. Yours most respectfully, WM. CHORLTON.

New Brighton, S. I., March 9th, 1863.

[Mr. Chorlton's letter was in type last month, but was unavoidably omitted. We are glad Mr. Chorlton has for the moment shaken off the lethargy to which he had apparently surrendered himself; if for no other reason, at least to show his professional brethren that he has not yet rusted out. Mr. Bright will have his hands full in defending himself against so many opponents. We have heard that he is fond of a good "lively time;" and he seems now to be right in the midst of one, "home-brewed." We shall take care that he is not too much crowded.—ED.]

ED. HORT.,—It would be quite a favor to some of us *in the country*, could we tax the not *very reliable article*, called *patience*, of our "city friends," to tell us the real value of "Bright's Grapery Border." Be it old or new, is to us of little moment. Is it reliable? is every thing to us. "Fox Meadow," Mr. Saunders, and others, seem to have opinions quite adverse of others. "Fox Meadow's" objection, that the border can not be kept wet, has no more truth, than that a pot in a house can not be kept wet with a rose or geranium in it. The quantity of water being known, it can be given, and will run through, when more than that, into the drainage below, say what he will. Now I do not know the best mode of pot culture of grapes; but I can not dispute, that there are those in England and America that do know, and do succeed. And "the detached and divided border" is a pot of large dimensions. If vines will succeed in a small pot, they will in a large one.

All I know of "divided and detached borders" is founded on a house twenty-two feet wide and one hundred feet long; another twenty feet wide, forty feet long; and the occasionally seeing two others. Experience in these shows, 1st. That the border dries easily, but can be kept wet, and controlled easily. 2d. That they are frozen easily, and the roots are liable to be so injured that the vines will not bear well, if at all, for a year or two in consequence. Hence, they must every winter be coated with manure, and the chambers closed, to exclude all chance of frost. 3d. The dryness of the border, in winter, may injure the vine roots. 4th. The care is greater than that of the common "winter" border.

Against this are the facts, 1st. That the fruit is excellent. 2d. That it is well colored. 3d. It is early, and 4th, It keeps remarkably long on the vines. 5th. Fruits that can not be ripened in a *cold* vinery, will ripen in the "divided and detached" border.

But these houses I speak of have not been long enough in use for me to know how long they will last. They certainly can be made to do well in for a few years. How long, I don't know.

I am very suspicious of the system, as Mr. Bright is so very ungentlemanly as not to answer my letters of inquiry, in which I told him that I was about to publish an article, and did not want to commit myself to a proven failure, if his plan was such.

Please let us know the truth, as "the ice is now broken" with Mr. Bright.

Yours, &c., S. J. PARKER.

Ithaca, Tompkins Co., N. Y.

[When Mr. Bright's work appeared we took occasion to show that his idea of an inside border was not original with himself. At that time we had not seen one of his borders, or our article would have been penned somewhat differently. Having seen them since several times, at Mr. Bright's and elsewhere, and examined them closely, we can speak of them somewhat understandingly. Mr. Bright's borders are raised above the floor of the house; they are detached from the sides of the house; and they are divided into small compartments. They are, in short, as you well represent them, simply large pots. A good idea of them may be had from the illustration in Fox Meadow's article last month, except that Mr. Bright's (at least those we have seen) are much more shallow; too shallow, indeed, for the purpose intended. They are, then, equivalent to pots, producing about the same results, and, so far as growing grapes is concerned, possessing about the same advantages and disadvantages as pots. We think you have stated these very fairly. There are very few people who are willing to give up a large house exclusively to growing grapes in pots, or divided and detached borders; if there are, they can very much improve them. The inside border we make is quite different from Mr. Bright's; it is made in the usual way, but the whole interior of the house is given to it; there are no divisions or detachments, but we often build the foundation walls hollow, and would always do so where the small additional expense is not an object. They have been in use a good many years, and we know of no case where they have failed to give satisfaction. The grapes ripen earlier than they do in an outside border. An inside border of this kind answers well for a forcing house. The inside, divided, and detached border will not prove lasting, on account of its size; that is to say, it will have to be renewed every few years. To this extent it is reliable.—ED.]

EDITOR HORTICULTURIST:—I have read the model report of "Pratiquer," in the December number of the HORTICULTURIST, with much interest, as I am a lover of good grapes. I have tried, years since—as have many other persons in this county—the Isabella, and failed to ripen it, with ordinary exposure, in a large per centage of seasons; so large that it has been generally abandoned. A few persons, in warm localities, with severe pruning, obtained "*colored*" fruit, and *called* it ripe; and by adding to it a large proportion of the saccharine flavor supplied by "Our Own Raising," made it palatable. Recently we have been told that the Concord, the Delaware, and a dozen or two other kinds, were not only excellent in flavor, but from 10 to 20 days earlier than the Isabella. Hope brightened. Our mouths began to water. Vines were purchased, in hundreds of instances, and have been out, some one, some two years, are now under their winter covering, but they were put to sleep with cheerful expectation that another season would give a *little* fruit. But judge of our surprise, our dismay even, to find Pratiquer, in a list to which he prefixes the remark, "I shall take them in the order of their ripening," placing the Concord later than the Isabella or the Catawba. Of seventeen kinds mentioned, the Isabella being the fifth, the Catawba the sixth, and the Concord the eighth, our dear Delaware—for such has been the encomiums bestowed upon her, that we had truly fallen in love with her, without a personal introduction, in the fervor of one sweet kiss—is the seventeenth, the latest of the whole tribe. If so, there is no hope for her in this county. Tell me, kind sir, is this so? What does all this mean? BERKSHIRE.

[In the article of Pratiquer alluded to, there is the seeming contradiction alluded to; but it is only seeming. We can explain it very easily, but prefer to let Pratiquer do so himself. In the mean time, you can comfort yourself with the assurance that your Delawares will all come out right. Pratiquer kept the "best till the last," not because the Delaware ripened last, but because it was the *best*.—ED.]